

## **The Female Urinal – Facts and Fables.**

*A paper given by Orde at the British Toilet Association (BTA).*

Imagination is more important than Knowledge.<sup>1</sup>

The Ideas of the few are those which affect the future of the many.<sup>2</sup>

If women start acting like people, they will be accused of acting like men.<sup>3</sup>

History has always favoured development (the horse-less carriage would not work; mobile phones will not catch on they said); we smile at those who wish they had not said " I think there is a world market for about five computers"<sup>4</sup>; "Everything that can be invented has been invented"<sup>5</sup>; "Very interesting Whittle my boy, but will it ever work?"<sup>6</sup>; "The atom bomb will never go off - and I speak as an expert in explosives"<sup>7</sup> and the more well known "You'd better learn secretarial skills or get married"<sup>8</sup>; "I would not wish to be Prime Minister, dear"<sup>9</sup>; "You ought to go back to driving a truck".<sup>10</sup>

Richard Chisnell, (Director of the British Toilet Association (BTA) and organiser of the Better Public Toilet Seminar 1999)<sup>11</sup> suggested I set out an abridged Positioning Paper on the female urinal for delegates. Briefly, I intend to deal with the approach to the concept, then current developments, some historical information, and other matters pertaining to the subject.

Conceptually, what do we imagine when we hear the words female urinal?

Our imagination will first visualise it in use: Leaving aside fetishism and pornography (and jokes<sup>12</sup>), the important criteria, as they say in real estate are location, location, location. Well, with the female urinal our imagination is no different. Our imagination will select, in varying order, images of:

---

<sup>1</sup> Albert Einstein

<sup>2</sup> Quote from Restrooms of the Future, <http://www.restrooms.org/>

<sup>3</sup> Attributed to Simone de Beauvoir

<sup>4</sup> IBM Boss Thomas J Watson, 1947

<sup>5</sup> Director of the US Patent Office, 1899

<sup>6</sup> Professor of Aeronautical Engineering at Cambridge, shown Frank Whittles plan for the jet engine.

<sup>7</sup> US Admiral William Leahy in 1945

<sup>8</sup> Modelling agency rejecting Marilyn Monroe in 1944

<sup>9</sup> Margaret Thatcher in 1973

<sup>10</sup> Concert manager firing Elvis Presley in 1954

<sup>11</sup> Public Toilet Seminar, 11 May 1999, National Motor Cycle Museum, Birmingham. I have updated this paper slightly adding comments made during the conference and some new developments and products - the field is constantly moving. Reference to papers given to this conference in footnotes below refer to the BTA conference.

<sup>12</sup> Jokes and humour I believe will be an important element when used instructively and positively for breaking down resistance and explaining the concept of women standing and urinating and for research and education.

How will it be housed? How will women use it? How will it look?

How will it be housed?

a) it will be private, ie housed in individual units;

b) it will not replace wc's but be installed with wc's so as to allow women the choice.

How will women use it?

Somewhat like the developments of Betamax and VHS there are two conceptual approaches to the manner of use and these in turn govern: a) the type of use: urination only or both urination and defecation and b) standing and facing or backing on and squatting.

- the one approach has its design based on a woman hovering / crouching and backing on to the unit. Most female urinals dating back to the turn of the century have based their designs on this approach. This is the most commonly used position for women when using a wc. The recently launched Lady P by Gustavberg Sphinx<sup>13</sup>, and the Lady Loo by Goh Ban Huat Berhad<sup>14</sup> follow this approach. However with both these units, while certain wc elements are omitted, ie toilet seat<sup>15</sup>, and the promotional emphasis is on urination, the unit caters for both urination and defecation allowing for an approximate 5 litre water flush and disposal of paper through the unit - there is thus no water saving. Women still back on to the unit as with a wc and adopt the squatting position, but in a slightly less bent manner which I think is more stressful than hovering - thus there appears to me no real benefit on questions of hygiene, cutting down queues or space saving. The Lady P, which I have seen and believe is a stunning design for a wc. but a wrong approach in terms of its being sold in a fixed unit, allowing no freedom of installation and taking up more space than a wc, and with a lack of privacy with its glass-type silhouette doors, something the questionnaire on public toilets, female urination and female urinals<sup>16</sup> shows women will not like. It also sells at a high price of around £ 2000 to include the entire unit.

- the other approach - and it is the one I believe is the correct approach - has the woman in a standing position, approaching the lockable unit. Women will only be able to use it for urination.

But is the concept of women standing to urinate really a revolutionary one?

I need to discuss this in some detail as while it is accepted that the issue of public toilets and facilities are interrelated to concerns such as water saving, hygiene, equal rights legislation, and environmental concerns (including therefore female sanitary items) the fundamental basis of design of facilities for women in this area has been dictated by an understandably western orientated

---

<sup>13</sup> Gustavberg Sphinx is a major company in its field on the world market and holds about a 75% share of sanitary supplies in the Benelux countries.

<sup>14</sup> Goh Ban Huat Berhad (GBH) is the largest sanitary and associated ceramic company in Malaysia.

<sup>15</sup> Research, including the Womens Urination Questionnaire (see menu at top of the screen) show that women hardly ever will sit on a public toilet seat, preferring to hover or even perch.

<sup>16</sup> Questionnaire: see the menu at the top your screen.

cultural and fashion criteria, co-existent at the time and place of the invention of the wc, a recent western invention<sup>17</sup>.

Historically and physiologically this is far too short sighted a view and does not address or even examine the basic premises.

Public facilities can never be properly addressed without addressing not only the issue of female urinals but the critical issue of woman standing and urinating. This has a large impact on the question not only of the installation of female urinals but on the shape, installation and usage of any facilities in public places. At the risk of repeating the obvious to those aware of the sanitation history over the ages much can be gained in thinking about ways people have urinated both in development and in our knowledge and respect for different cultures and different periods of development and sophistication of the human race that impact on current design.

For anyone to ignore this issue would be to attempt a lop-sided view, like viewing the Kosovo situation from a military point of view without examining the refugee element. Furthermore, it is clear that the concept of women standing is being readily adopted by women for multiple reasons. This is seen in the surge of development of changes to design of female underwear, including unisex underwear, portable devices (which I discuss below under current developments); convenience, especially in outdoor or sporting activities<sup>18</sup> and popularity of multiple web sites on the subject of women standing to urinate.

One should never forget that over half the world's population are women and women exceed men in today's work-force and this means the public sector usage<sup>19</sup>.

Facts:

Professor Kira, in what is considered by all as the industry standard book on sanitation and the bathroom, points out that:

...for all practical purposes, she [ie women] has little control over the direction of the urine stream in the customary assumed sitting posture. In a standing position, however, a fair degree of control is possible...<sup>20</sup>

---

<sup>17</sup> Although wc's have been around for some time the modern w.c. dates from around 1884. First we have to thank Sir Thomas Crapper whose Valveless Water-Waste Preventer was perfected in 1884 and is the basis of the modern w.c. The siphonic action was greatly improved in The Pedestal Vase as it was called by its inventor George Jennings and it won a gold medal at the UK 1884 Health Exhibition. Later Shanks (or the now Armitage Shanks) developed a cheaper version of the Jennings invention.

<sup>18</sup> It takes a little imagination for men to realise that what is taken for granted by men for example even just outdoor activities (hiking, skiing, walking etc.) present a problem to women who need to think about facilities all the time - and who says they do not need to urinate as much as men. It really amazes (and shames) me that I did not think of this before - all the pleasures men take for granted in enjoying our planet.

<sup>19</sup> The latest figure in the UK is that currently 51% of the workforce are women: Stuart Sinclair, 'We are changing but it is hard work', The Guardian, London 7 May 1999, p.13

<sup>20</sup> Alexander Kira, The Bathroom, Penguin Books, Harmondsworth, 1976, p.143

Current surveys support this view

- A survey and experiment which was conducted in 1992 for a Master's Degree on women's ability to stand while urinating<sup>21</sup>. The results were summarized by the author and I quote :

Older women had the lowest success rate [for first attempt to urinate standing], and urinals would be almost universally accepted. The youngest to respond was 13 years old, the oldest was 78. For some statistics [for first attempt to urinate standing]: the average age was 32. There was a success rate among respondents of 84 percent. Among women under the age of 30, success was a whopping 98 percent. Women over 50 seemed to have difficulty conquering this. I'm not sure of the reasons behind this, except that maybe childbirth and gravity have taken their toll. Dozens stated that they will or do stand nearly 100 percent of the time. Ninety-five percent felt that installing urinals would benefit the overall population, save water, and speed up the process, while others weren't sure if the majority of women would have the nerve to use them because of lack of knowledge and societal conditioning that states women should be sheep and not deviate from the norm.

- In another survey of about 800 women conducted by Denise's Mailbox<sup>22</sup> - the first, I believe, and the largest and most successful of the current five web sites devoted to a forum for women who wish to stand and urinate; of the 600 replies who tried the techniques to stand and urinate 70% were successful at the first attempt, 30% failed initially but after repeated attempts this reduced to 9% who failed to master a learning and acquired technique. Denise's mailbox started in November 1997 with 200 hits in the first month and now has some 47,000 hits a month (some 140,000 pageviews per month) and has won a number of web awards. We have recently taken over the questionnaire, which can be found on this web site.
- The Questionnaire has had some 600 replies and all show that a female urinal where the women stands, is something women would like and can use.
- On the subject of learning a technique, a book on outdoor activities which includes a section on women standing and urinating (grandma's advice) has sold over 300,000 copies in the USA. Indeed, I think I can say that the teaching of the technique to women to stand and urinate is an 'environmentally sound approach to a lost art'<sup>23</sup>.
- Dr Dean (a medical doctor with the largest radio show of its kind in the USA is positive towards the development of a female urinal and states "Listen, nothings wrong with an appliance that might help bladder function in women" and goes on to refer to the web site of Denises's Mailbox, as one that "gives instructions for women who want to learn how to do this standing up."
- In fact, the more I research the cultural and historical perspectives, and obtain information from women themselves and surveys, the more I realise that the matter is one of cultural and/or fashion dictates, rather than any physical inability.

---

<sup>21</sup> I have only seen summaries of the thesis (second hand) which I believe was written by Sandra Wong for the University of California at Santa Cruz.

<sup>22</sup> <http://www.restrooms.org>

- Historically, too, the facts point to standing or squatting as purely social and cultural issues - sometimes dictated by fashion and not questions of physical parameters. I have been told, for example, that Herodotus commented (without judgement) on Egyptian women who stood to relieve themselves while men squatted (much to his Greek wonder)! Victorian women stood to relieve themselves and in parts of the world today this is still the case<sup>24</sup>. For example, I am told that in parts of Spain and Italy women pee standing up and unisex restrooms exist, and that in China women pee standing up outdoors.

- In today's popular culture, even for those who do not believe that art and science lead mankind, there is the aunt's scene in the film *The Full Monty* with she goes up to the men's urinal to stand and urinate. In a more technical way today NASA has spent hundreds of thousands of dollars on research for its female astronauts and female military to deal with the issue of women's urination.

- For further examples of the cultural factor as an element, we can think of some perceptions that have been taught to us as children - for example:

The perception that men do not sit on a toilet to urinate. They are educated to stand urinating. Male children are taught by their parents how to aim and point in order to urinate accurately into the bowl. In some countries men sit, and in some now (eg German domestic situations, it is the norm for the host to ask male guests when using facilities to sit). Interestingly enough some reports show that single female parent families have their male offspring sitting and urinating and single male parent families have their female offspring standing which suggests that the rigid social norms have already broken down to a more equitable situation. Furthermore as most parents know with mixed offspring it is often the case that the younger female sibling of a male brother will stand and urinate until she is told it is wrong or not to - the usual reason for her doing this is mixed up also with sibling rivalry. There is no doubt that if men were to sit there would be less mess, as men do not aim correctly. The issue is that they have the choice when it comes to public facilities while women are not offered this choice. In the section under legal issues I discuss this more fully.

Women, however, are not given this opportunity to choose and are trained that they must sit when urinating. The prime reason is that of not being accurate. Yet as we know, men are not accurate either. And this teaching is despite the fact that 100% of women canvassed refuse to actually sit on a toilet seat in public toilets and are forced to 'hover' above it to urinate. Some even perch dangerously on either edge of the toilet bowl (a position shown in one of the disposable products, the *Urinelle™*). It is not a well-known fact, but women can urinate further than men, and accurately. Female children can be trained to sit or to stand to urinate and we know that children are quick learners.

The basis of difference is merely social teaching and discrimination.

---

<sup>23</sup> The provisional subtitle to the book I am considering on dealing with cultural, historical, anecdotal and other perspectives including techniques.

<sup>24</sup> One amusing (to me) historical perspective that I have read on Denise's Mailbox on cultural history of urination - standing and squatting - is that early men and women stood (and hence were equal as persons) but even Neanderthal man could not cope with the idea of a woman being able to pee further than him, so he used his brute strength to force her to squat every time she peed. And so it became culturally acceptable. I have mentioned previously that women can pee further than men.

It is thus a truism that our own family upbringing and our cultural environment have been determining factors in our perception of the world and the people around us. At the end of the 20th Century the prejudices that occur are being diluted in the family environment, but there remains a different cultural teaching for the sexes in the bathroom and a vastly different one relating to public toilets. This is now changing. Acceptance of the fact that women can and do urinate standing and do have this choice to take is only a matter of time

Having established this point briefly let me examine current developments and products on women's urinals and urination, water-politics perspectives, some medical factors and the legal issues. There is a need to educate ( a government responsibility?) and to install and test female urinals in public spaces.

Current situation

\*How will it look: Types

On the installation side of women urinals there have been many attempts over the years by most International Sanitary manufacturers. In fact every company that I have been in touch with have considered or are considering it. There are two basic types of developments - the portable (disposable and personal) facilities for women and the permanent facility of a womens urinal which is now further evolving into a quest for a domestic unisex urinal. Most of these companies such as American Standards (The Stanistand was produced from 1950 to 1973) and Toto have developed female urinals but always in the traditional position of hovering/squatting and backing on.

Currently and co-incidental with the development of the Lady P and the Lady Loo, are at least two others: the first is the Standy, a German product (c. 1997) which was granted some 180,000 DM German Government support and which appears to me to be a variation of a Turkish squatting device with a raised floor hole and foot rests.

The other is the Standolet™ which breaks with tradition and assumes the women are in a facing and standing position. The development of the Standolet™ began some 2 years ago by myself and has been patented. Development has progressed significantly to ceramic prototypes manufactured by Ideal Standards, UK. Moreover, Geberit - one of the world leaders in flushing systems - have an electronic flushing system for the female urinal now ready. The amount of water flushed can be adjusted from 0.5 litres to 3 litres (depending on the installation system) and the flushing time can be varied between 3 and 15 seconds. Moreover the equipment is suited to any country - electric, manual or battery operated - and can give key information such as numbers of usage - which can also be varied from country to country.

What is envisaged is that the unit will be in a separate, individual, lockable cubicle, and as for mens facilities, women can either use a wc or a sc. (standolet closet). At the moment we envisage it use for urination only and it will have separate facilities for the disposal of paper/sanitary pads<sup>25</sup> a major issue amongst women, discussed under Medical below.

---

<sup>25</sup> Whatever form these items are: eg applicators (made from cardboard), sanitary towel, cotton string, tampon (eg pantiliner)

Historically others include the She-Inal which had a funnel like attachment and the Urilet a combination toilet and urinal which won a \$10,000 award. This relates to male urinals only but shows the interest and trend to conserve water and for innovation.

- Portable devices

Of the women surveyed 100% stated that in public toilets those who wish to urinate adopt a hovering position when urinating. This results inevitably in spraying onto the seat thus contaminating the seat for any subsequent users. By the time a few women have used the same public toilet the contamination is irreversible. A contaminated seating area is a nightmare for a woman who wishes to defecate. Disposable seat covers are sometimes available but they are not popular, partly because they are made from paper and so are not an adequate defence to stop bacterial contamination of a female bottom nor do they stop any moisture travelling through the paper onto the female's bottom. The result is the appearance on the market in the last decade of numerous hand held items allowing women to stand and urinate

Unlike the fixed units, except for the Standolet™, all portable devices (excluding hospital bedpans) thus work on the principle of the women standing and are bought over the counter usually at pharmacies. There are many types, shapes and materials. They vary from the more robust ones for bladder problem use such as the Lady-Pot and Millie to the disposable public use ones such as La Femme, Freshette, Urinelle, On the Go and Whizkids; Whizkids being developed for children particularly for use in school where parents are unhappy about their young daughters using dirty or contaminated public school facilities. There is the Travelmate from the Restrooms of the Future<sup>26</sup> and Genius lady. All these will tend to socially and culturally orientate women to stand and urinate.

- Surveys

I think it is self evident that the state of public restrooms and especially women's ones have to change and I need not dwell to long on the issues here in terms of surveys of the problems such as hygiene, length of queues, water consumption etc. In any case there are not that many surveys that I know of. Of those that I do, such as the French public survey of 5 and 6 March 1998, of 521 women over the age of 15, the following results were given:

1. 58% found public toilets dirty and held back urination
2. 78% hover
3. 48% of pregnant women will not use a public toilet

The current most detailed independent survey is the questionnaire I compiled<sup>27</sup>. It went on the web early February 1999 and currently has some 1200 hits per month. To date there are 844 replies and the results need detailed analysis. In brief, they show public facilities are either unusable or dirty/unpleasant - the worst problems being hygiene or long queues; that there is rarely toilet paper and so on. All say they will use it. Teaching the method is a high priority with a number of different

---

<sup>26</sup> Formerly marketed as the Pee-shooter.

<sup>27</sup> Again, the questionnaire originally resided at <http://www.restrooms.org>, but can now be found on this web site (see the menu at the top of your screen).

ways being suggested. The use in the domestic environment is also supported but the reasons vary. This survey is probably the largest cross section and most detailed independent survey yet and has yielded much important information eg medical concerns that impinge on public toilets which I now propose to discuss:

Medical Concerns of the public use of Toilet facilities.

Aside from hygiene, the most important ones are that of incontinence (which is not a disease but a symptom or condition) and what is termed the 'Modesty Bladder syndrome'. African Women suffer less incontinence (1 in 4 western women will suffer incontinence, far less in men). Simplified it seems to indicate that the the seated position leads to weaker bladder muscles and this results in incontinence<sup>28</sup>.

Moreover the holding back as women have to do, for example in queues leads, to complications, including dribbling and also affects the bladder muscles and its interconnection to brain signals for urination. There is a view developing that this leads to the situation whereby women sometimes cannot be sure weather they wish to urinate or defecate and mishaps occur. Clearly if women were to stand this may be a solution in overcoming these problems.

Second the 'Modesty Bladder syndrome' which was first diagnosed during Victorian times seems to be on the increase and may be a result of women having to hold back at public functions like concerts, outdoor events etc where there are long queues.

One should also remember that as women gets older the hovering position is uncomfortable and difficult. Pregnant women also find it better to stand as hovering with a heavy weight is uncomfortable, and they need to urinate fairly often

Then there is the medical issue of Toxic shock Syndrome and use of tampons.

Aside from the hygiene issues of cleanliness, by far the largest concern is the disposal of sanitary items. Most detest the design of these facilities and yet many replies express environmental concern at disposing these into the wc's - contamination of the water, blockages, and the non degradable element of sanitary pads. In some USA states, the concern of this extends to considering the suggestion of making it unlawful to flush sanitary items when bins are provided. How this could be policed I don't know.

Two developments appear to be taking shape in the USA (and perhaps elsewhere) and both favour the redesign of women public toilet areas:

- In regard to menstruation and toilet paper, Lintels produce a cotton item which is, they claim already taking some 5% of the toilet paper market. Then there are the menstruation cups like the Keeper, which are made from natural gum, are personal and reuseable and claim to be more

---

<sup>28</sup> According to the expert, urinary incontinence, "very often it can be helped - cured for many and improved for all... There are three types of incontinence, stress, urge and overflow excluding the symptom called reflex bladder. The most major is stress and the cause is given as 'Your pelvic floor muscles have become weakened' Understanding Bladder Control - understanding health, a free booklet distributed to health practitioners in the UK, Hawker Publications Ltd, London, undated



economic, save paper, and be more hygienic. In regard to the latter there appears growing medical concern about sanitary pads in any form and given the sensitivity to both the legal and moral issues here I need to explain what I understand to be the problem of what is called TSS (toxic shock syndrome) in relation to this issue<sup>29</sup>.

Again this is an important and interrelated subject to public toilet use. If tampons are replaced by other items, a major concern of public toilet design is overcome - disposal of these via flushing of the wc's present problems of hygiene, smell, blockage etc as well as in design of public areas and bins for sanitation items for women, even if there is no womens urinal.

The culprit of this is the toxin-producing form of the bacteria *Staphylococcus aureus*, which is usually a benign resident of the nose, skin and vagina. For reasons not quite understood this bacteria multiplies and produces a toxin that has been found in 90% of menstruating women who have developed TSS. Nearly all used tampons. The role played by tampons is not fully understood. however scientists believe tampons act as a perfect host for the bacteria as they absorb menstrual blood, and provide a good 'surface' for the bacteria to colonise. Inserting a tampon also adds oxygen to the normally anaerobic (oxygen-free) environment of the vagina. Scientists have shown that Oxygen stimulates the production of the TSS toxin

Boxes of tampons with inserts which say TSS is a rare disease fail to mention that TSS affects more women than Aids. Out of 100,000 menstruating women 3-15 will be stricken with TSS and 70% of TSS cases relate to menstruating women. Mortality from the disease is 3-8%. The risk of contracting TSS increases dramatically with the absorbency of the tampon and the amount time during which the tampon is used. It is estimated that the risk of TSS goes up by 37% for every additional gram of liquid a tampon absorbs. There is as yet no law forcing tampon manufacturers to label their ingredients. Aside from the use of Chlorine, to bleach tampons white, an FDA study revealed that boron, aluminium, copper, waxes, surfactants, alcohol, acids, nitrogen compounds and hydrocarbons have been found in tampons. The majority of tampons are made with viscose rayon which scientists believe enhances the growth of the *Staphylococcus aureus* bacteria more than cotton does. To my mind the inserting of these into the body in an element of flowing blood seems far more unacceptable than standing to urinate and perhaps shows that it is societal conditioning which governs our perceptions on these issues.

A womens urinal can have a further relevance and advantage here in that it can be accepted that only non menstruating women would use the urinal. But in my view, one cannot rule out a women who is menstruating using it. Thus bins would be required in all urinal units and this is catered for in the design of the enclosure. Women urinals generally will be far more practicable and cleaner than w.c's and more so if products like the Keeper are more extensively used among menstruating women.

From medical concerns let me turn to legal concerns.

## Historical and Legal

---

<sup>29</sup> Most of my information has been obtained from the Museum of Menstruation and from reports of 1996 based on Whitewash by Liz Armstrong and Adrienne Scott.

It is in England that the first public attempt to address the installation of a women's urinal occurred. In 1927 local UK councils were concerned that women were poorly provided with public lavatories and always had to pay to use a cubicle while men could use a urinal free. The public Health committee in London reported that 'a fitting for women has been designed known as a Urinette. It is similar to a wc but is narrower and has a flushing rim - Urinette were fixed in wc compartments usually with a curtain in front instead of a door. Eight London boroughs installed Urinettes in 30 different places<sup>30</sup>. Women squatted and backed onto the Urinette - misuse occurred. The point, however, is that in 1927 there was concern and an open mindedness from boroughs to install items to improve.

I know of women's urinal that has existed in the Oslo train station for many years but have no further information as the station is currently being redeveloped.

From the users point of view the first serious attempt to change the public toilet and women's rights for equality was a protest by the Dutch women's group, Dolla Mina in 1970 on Dam Square, Amsterdam. The city councilors rejected their concerns for extra women's facilities on the grounds of cost<sup>31</sup>.

Perhaps public debate and champions in Parliament might force a change. The English Parliament MP Julie Morgan has tabled an Early Day Motion on the issues<sup>32</sup>.

The real change will come, I suspect by multiple factors (including perhaps a lucky break), but also by use of legal rights which have been one of the major driving forces in social and cultural change. As mentioned previously women make up over 50% of the workforce and equal rights legislation will soon force this change. I hear that in the USA some discriminatory cases have begun.

There is no doubt that there can be no discrimination in the public sector on the grounds of gender. In the EU this is strengthened by numerous pieces of legislation and attitude. For example Articles 2 and 3, section E clause 2 of the Amsterdam Treaty commits the EU and all member countries 'To promote equality and eliminate inequality between men and women'. One can mention one recent example whereby on the 23 iv 1998 the British Government announced new laws for the armed forces training requirements to ensure equality between the sexes. The state of Texas on 4 16 1997 introduced a law regarding portable restrooms whereby the normal one w/c and one male urinal was discriminatory and unhygienic and therefore separate sex restrooms had to be created.

How does the discrimination occur. Very simply in the number of facilities. Women are discriminated against purely on the grounds of gender although sometimes the situation is reversed (eg at the Barbican Centre Art Gallery there are many more w/c's for women than the combined total of urinals and wc's's for men). There are set rules for number of facilities under various legislation relating to public places and venues and to building regulation (in the UK they are called the British Standards 7358 etc) and environmental health regulations: to take one example:

---

<sup>30</sup> Hart-Davis, Adam, Thunder, Flush and Thomas Crapper - an encyclopedia, Michael O'Mara books, London, 1997, p.147

<sup>31</sup> My source is the IAA, a women's organisation in Amsterdam.

<sup>32</sup> Her paper, Public Toilet Legislation Update to the BTA conference, was positive. She mentioned she has obtained some 90 signatures and has set up a briefing session at Westminster and a Conference in Cardiff in July 1999.

On say 600 people at the following ratios - assumptions are calculated on 50/50 split:

required toilet ratio for men 1:100 = 3

required urinal ratios 1:10 = 10

required toilet ratio for women 1:40 = 8

TOTAL for Urination = Men 13 and Women 8

A women wishing to urinate in relation to a man is discriminated against. The ratios vary according to the country and type of public institution.

In the USA for example current building codes for High Schools in the Western USA (Section 2902 Uniform Building Code) states:

required toilet ratio for men 1:100, required urinal ratio 1:30

required toilet ratio for women 1:45

So a school designed for 1800 students would have -	MEN	WOMEN
required toilets	9	20
required urinal	30	
TOTAL for Urination	39	20

In this USA situation men have here almost twice as many fixtures to use for urination than women

Operators will have to either provide more space and facilities for women (and in some cases men) which they will be reluctant to do not only as a result of cost, greater water consumption, greater maintenance but also as a loss of valuable space; or they can consider the alternative of giving an equal amount of possible urination facilities by the installation of men's and women's urinals<sup>33</sup>. In regard to space saving, it is clearly demonstrated that three womens urinals like the Standolet™ all in self enclosed individual units and one w.c will save 50% space over four wc's and could be a motivating factor from the installers point of view for installing women urinals.

Current legislation on waste disposal may also force changes. David Dingle, who presented a paper to this conference<sup>34</sup>, mentioned in his paper that there is a duty of care imposed on the producer/installer, the carrier, the disposer and the broker to the public. Also the wording of the UK Water Industry Act of 1991 makes it illegal 'for any matter to interfere with the sewer' as do sanitary pads. Coupling these two points together leads to the possible interpretation that the creation of women urinals could be part of a duty of care by the installer and users would be obliged to use it as

---

<sup>33</sup> I suspect, in time to come installers will have unisex wc's - ie toilets only and s.c's being a unisex area where there are two section of urinals - one for males and one for females. In time one might find the unisex urinal developing which would be the basic shape of the womens urinal which can be used by men. Women cannot use the currently designs of men's urinals. I rule out no possibilities.

<sup>34</sup> "Sanitary Waste disposal - Enviromental concerns"

such. At the least, the legislation imposes as a duty of care the need to improve matters if this impinges on that duty.

From a building control point of view there is no legislation prohibiting the installation of women urinals and indeed in my discussion with Building Control Inspectors in Oxford, they are quite open to such 'novel sanitary devices'.

I think the above are the major issues to be considered in the public restrooms. One should not forget that 50% will be used by women - although by 2002 women will exceed men in the workforce by 10%, and in particular more serious thought and investigation and research should be done by the authorities for the introduction of the womens urinal.

Other issues can be summarised as follows:

- Water concerns

Public female toilets are infamous for their long queues, lack of hygiene and water wastage (an average toilet uses 7 litres for each flush of 450 ml of urine. Multiple surveys show that a women may flush a toilet twice, before and after usage, sometimes even four times. According to the Manufacturer Duravit 6% of women flush four times; 26% put paper on the seat and flush more than twice.

It is self evident if even a small percentage of over half the worlds population were to use a urinal water consumption would drop from around 8 litres per flush minimum (allowing a low 10% add on margin for women who flush more than once) to around 0.5 litres. We are talking of billions of billions of litres of potential drinking water being saved annually. And according to a World Bank Report, the next centuries wars will be fought mainly over water. In parts of Africa and in 37 countries they point out this has already begun.

The Living Planet Report of 2 x 1998 issued by the Worldwide Fund for Nature, the New economics Foundation and the World Conservation Monitoring Centre at Cambridge highlights the need for water saving in very serious terms. It says "the rate of decline of freshwater eco-systems is 6% p.a. with water usage doubled since 1960". Water Wars - is the worlds water running out <sup>35</sup> published in 1999 analyses the problem and needs and problems and strife. His final words are a belief in human nature to invent something to solve the situation and the Standolet may just be that.

- School female toilets

Hygienic conditions of young girls toilets in the USA are becoming a major concern.

- The Commercial user/installer

Space saving in buildings are a concern of all developers including City Councils or other Public institutions for their public wc's. As indicated, over 50% of floor space is saved in comparison with 4 wc's and 1 wc with three women urinals each still in a lockable individual unit. On can also mention the survey already discussed that attended facilities are cheaper overall than unattended.

---

<sup>35</sup> Marq de Villiers, Weidenfeld and Nicholson, London ISBN 029784270 6

- Blockage reduction.

Heathrow airport maintenance claim a good week has about 300 blockages in the women wc area, with resultant inconvenience to users and time and money in replacement. The usual reason is the swelling up of sanitary items.

David Dingle in the same paper at the BTA conference pointed out how blockages occur more frequently as a result of nappy disposal, but that this is not limited to female wcs but also to male wc's. This lends support to my research not only of the development towards equality (men are changing nappies) but other sanitary items are finding their way down the wc and contributing to dirty and unhygienic wcs - now both male and female. Certainly a solution is separate nappy change rooms, but this is unlikely on any large scale to cost factors. However the greater use of urinals would improve conditions critically for women even if their wcs are still being used for nappy change requirements.

- Domestic Use and domestic unisex urinals.

In 1989 it was calculated that 32% of domestic water usage is that of the toilet<sup>36</sup>. Thames Water estimates it at 43% today for a family of four (including a washing machine, but not a dish washer, and one bath with shower attachment. Domestic male urinals exist and are gathering a market share in a number of countries especially with water charges. While not an issue yet for the public in the home environment the questionnaire shows approximately 95% of people would use a unisex urinal in the home even if they had children. Different percentages show that the reason for doing so varies from saving money (water consumption charges are on the increase) to providing a second facility in a secondary space, to its unisex element<sup>37</sup>.

- Portable Urinals: Refugees and natural disaster areas and public event situations

In catastrophic events such as displacement from the home as a result of natural events (earthquakes etc) or human events (civil wars etc) portable public women urinals can help dramatically with problems of sanitation and drinking water and associated health conditions. In the latter, hygiene is of major concern to relief agencies and to the local governments, as is water supply especially in the situations where the refugees are for the most part women and children. Health organizations are predicting the outbreak of diseases in Kosovo, which could cause more deaths there than the ethnic cleansing. For refugee situations the separation of urination from defecation facilities for women greatly improves health conditions and allows a certain dignity to the suffering.

Portable women urinals could be of major significance and importance in outdoor events like pop concerts, or on construction sites (where there is now a law regarding this in Texas).

- Cost savings

The unit has a marked saving in manufacture cost over full scale female toilets, which are used far more often for urination than defecation. It is also less expensive to install in terms of pipe-work and

---

<sup>36</sup> Toiletten Geschichten, Balena Douche WC, Butschwil, Switerland, 1989, p.31

<sup>37</sup> See question 28 of the questionnaire

by the use of a separating panel in terms of brick and building work. We believe the adjustable ere-built unit will also save much time in installation costs, by its very nature.

A concern regarding women urinals is surveillance. However an interesting paper delivered to the conference<sup>38</sup> showed that when costs are broken down to hourly rates and include factors such as maintenance and repair, water and sewage charges, attended toilets run at a cost of £ 5.25 while unattended run at £ 22.87. An attendant can of course also provide information on issues such as hygiene.

- Time savings

There would be a great decrease in the time spent in a women urinal compared to a wc.

- Clothing

It is clear that the issue of societal norms and current fashions are interlinked to clothing.

Specialist outdoor clothing manufacturers are making clothes with super zips for women. The questionnaire deals with clothing and its usage and it is clear that sufficient styles of clothing exist worldwide for women to urinate standing without any undergarment inconvenience.

Perhaps I can mention here that in Modern China they seldom use nappies but have split pants for children of both sexes<sup>39</sup>. The makers thus of the Super fly and other items of women clothing with extended zips for sportswomen have, I believe a parallel development with children in China. We also know how the success of jeans, trainers, manufacturers like Carhart whose clothing originated in specialist situations, builders etc are now entirely mainstream. Furthermore I am informed that Vivian Westwood designed a series of clothes with zips fully extending (but not for any practical reason of urination facilities) and in Holland currently the designer fashion item is zips.

- Social

In The Guardian of 25 iii 1998 is comment on how bouncers are required in a club to prevent women from using the mens toilet. In discussion with club owners it is clear this is not an isolated incident and occurs now in most public places - I myself have been witness to it at the Tate Gallery, London toilet area - there were no bouncers present! But it is much more than this. In certain countries, particularly western, there appears a widespread resistance to a female urinal, but it is fundamentally shallow on closer examination. The need for this produce, its utility, time saving, health and water saving implications and its eco-friendly imperative soon outweigh fear of the new. Its wider global implications of averting wars by the element of water saving cannot be ignored (6 litres flush for 0.5 litres of urine by over half the worlds population, 5 times per day each on average). Besides all current surveys and reports show change imminent especially amongst the young. The latest conducted by Dr Pepper amongst 13-19 year olds<sup>40</sup> suggested inter alia the trend

---

<sup>38</sup> 'Attended Versus non Attended - A case Study' by Lew Hammond (Whychavon Client Service Dept) and John Saunders MD, MITIE).

<sup>39</sup> Thunder, Flush and Thomas Crapper - an encyclopedia, Michael O'Mara books, London, 1997, p.35. This may be a possible reason why women in China stand to urinate.

<sup>40</sup> See report The Daily Telegraph, London 11 August 1999

for unisex clothing will continue, men will wear make up on a daily basis, etc, suggesting parity and equality between the sexes.

That a woman can urinate standing is clear and the more I investigate this, the more women indicate and prove that it is possible and not that it cannot be done<sup>41</sup>.

The conclusion once again points to the need to dispel cultural prejudice and create practical suggestions for women: to offer them the ability to learn a natural and environmentally sound technique; to give women a choice; to making improvements to public toilet areas. The most significant one for overall improvement and the most far reaching one being the installation of standolets, otherwise known as the places where women can urinate standing. History has always favoured development, especially in issues of social justice, hygiene, comfort and common sense

Orde Levinson

---

<sup>41</sup> The horseless carriage was something that initially could not be done. So too with a flight to the moon. The suggestions here are a little closer to home.